CLAIMS

- 1. A process for the manufacture of a gas diffusion electrode comprising the steps of
- a) application of a catalyst ink to a gas diffusion substrate;
- 5 b) firing;
 - c) application of a proton-conducting polymer solution; and
 - d) drying;

characterised in that the proton-conducting polymer solution comprises one or more solvents selected from the group of solvents with structure A

$$R^{1}$$
 C
 R^{2}
 R^{2}
 R^{3}

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wherein R^1 , R^2 and R^3 are independently chosen from H, methyl, ethyl, n-propyl and isopropyl.

- 2. A process according to claim 1, wherein the proton-conducting polymer solution comprises N,N-dimethylacetamide.
 - 3. A process according to claim 1 or claim 2, wherein the catalyst ink comprises an electrocatalyst, a solvent, optionally one or more binders and optionally one or more rheology modifiers.

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- 4. A process according to claim 3, wherein the electrocatalyst is an unsupported metal catalyst.
- 5. A process according to claim 3, wherein the electrocatalyst is a supported metal 25 catalyst.
 - 6. A process according to any preceding claim, wherein the catalyst ink comprises a PTFE binder.

- 7. A process according to any preceding claim, wherein the proton-conducting polymer solution comprises a perfluorinated polymer.
- 8. A process for the manufacture of a membrane electrode assembly comprising the 5 steps of
 - a) application of a catalyst ink to a gas diffusion substrate to form a gas diffusion electrode;
 - b) firing the gas diffusion electrode;
- c) application of a proton-conducting polymer solution to the gas diffusion 10 electrode;
 - d) optionally drying the gas diffusion electrode; and
 - e) combining the gas diffusion electrode with a proton conducting polymer membrane;

characterised in that the proton-conducting polymer solution contains one or more solvents selected from the group of solvents with structure A

$$R^{1}$$
 C
 R^{2}
 R^{3}
 R^{3}

wherein R¹, R² and R³ are independently chosen from H, methyl, ethyl, n-propyl and isopropyl.

- 20 9. A process according to claim 8 wherein, the proton-conducting polymer solution comprises N,N-dimethylacetamide.
- 10. A process according to claim 8 or claim 9, wherein the catalyst ink comprises an electrocatalyst, a solvent, optionally one or more binders and optionally one or more 25 rheology modifiers.
 - 11. A process according to claim 10, wherein the electrocatalyst is an unsupported metal catalyst.

- 12. A process according to claim 10, wherein the electrocatalyst is a supported metal catalyst.
- 13. A process according to any one of claims 8 to 12, wherein the catalyst ink 5 comprises a PTFE binder.
 - 14. A process according to any one of claims 8 to 13, wherein the proton-conducting polymer solution comprises a perfluorinated polymer.